RAILROAD TERMINALS OF THE UNITED STATES.

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ASSUMING that any good building should express its function both in plan and design, suit its environment, be truthful in the expression of its structural elements and the technique of the use of the materials of which it is built, indicate the principal elements of its plan in its exterior, and withal be pleasing in appearance, it is easy to establish a broad standard according to which particular buildings, such as railroad stations, may be judged.

The function of a railroad station or terminal is above all to provide in convenient and proper manner a connecting link between the service of the railroad and the public who use that service. Every requirement of plan must fundamentally be based on the idea of making it easier, safer and pleasanter for the traveller to avail himself of the facilities of the lines of transportation. These requirements have been extended until the greater terminals in the United States really house complete communities in themselves. Such terminals as the Pennsylvania and Grand Central in New York, in addition to the usual provisions for waiting rooms, dining rooms, comfort rooms, barber shops, parcel checking rooms, news stands, telegraph and telephone booths, include shops where every variety of goods from flowers to clothing and from drugs to toys may be bought, as well as having huge adjacent hotels which may be reached by underground corridors without exposure to the weather. Some buildings, especially those at New York, Philadelphia, Detroit, and Kansas City, contain the offices of the railroads, and some even contain space for public rental. Most of the larger buildings have been luxuriously built, and the maintenance and overhead charges have mounted to more than fifty cents per passenger.

The environment should influence the plan and design of any building to a great extent, and the physical conditions of the site must do so. The character of the traffic and number of transportation lines must, of course, determine certain important features of the terminal plan, the proper adjustment of avenues of access, whether subway, surface or elevated, must determine other important features; for, to function properly, the railroad terminal must not only accommodate the great traffic lines which it serves but must be conveniently and easily reached by those who wish to travel. A vestibule should not exist for its own sake, it is always a connecting link between the without and the within. As for the exterior, it is not reasonable to think that stations like those at Washington and Kansas City, with great open plazas in front of them, should be designed in the same spirit as the stations in New York City, surrounded by comparatively narrow streets, and year by year being more hemmed in by tall buildings.

Truthfulness in the frank use of each material for its own sake and not in imitation of something else, and frank declaration of structure are somewhat rare in modern building. In this regard your own Prof. Lethaby has some sincere and pertinent words to say in his articles on "Living Architecture," one of which was recently reprinted in our Journal. We build steel frames, cover them in imitation of

structural masonry with stone which serves but little structural purpose, or if stone is too expensive, we use terra-cotta in imitation of stone—an imitation of an imitation. Some years ago, Mr. Leopold Eidlitz expressed it well when he said, "we build in one material, cover it with a second in imitation of a third." This untruth has become so common that it hardly deceives any more and has almost become innocent from its frequent use, as Ruskin says of gilding. The railroad station, if it is to assume its proper place in the city plan, should certainly be truthful and sincere architecture.

Inasmuch as the great majority of travellers enter or leave a city through one of its railroad terminals, the modern terminal is as truly a vestibule or gateway to the city as was the mediæval town gate. And moreover, it is its front and principal gateway or vestibule where guests first partake of the city's hospitality, and as such should be designed in keeping with this fact.

Probably no two architects ever solved this kind of problem in the same way, and unfortunately many architects never attempt to solve the problem, merely making their buildings good looking, and one day the Parthenon serves as the model for a bank, the next for a theatre, and again for a synagogue. So with our railroad stations, many are merely compositions of what is so often miscalled architecture, and for which real architecture is often sacrificed—compositions of more or less original interpretations, or rather misinterpretations, of hackneyed elements. Where serious attempt has been made really to express what should be expressed in the railroad terminal we have results as various as the frank transcription, on a grand scale, of Roman splendour in the Pennsylvania terminal of New York, the rather irritating essay in the style of the Beaux-Arts School of the Grand Central of New York, the cold, impersonal, heavy treatment of the Washington Terminal, the almost brutal detail and scale of the Kansas City station, and the breaking away from precedent in the forms used and the reliance on colour of the comparatively small Rochester station.

Before considering particular buildings it might be well to recall some facts regarding the physical metamorphosis of railway terminal buildings in the United States as well as some peculiarities of transportation conditions and requirements which tend to modify the terminal plan in different parts of the country. A quarter of a century ago the chief characteristic of our large railway stations was the great train shed covering the entering tracks. These were huge engineering works, and often quite impressive on account of their great span and loftiness; spans of from 250 to 300 feet, and heights of from 75 to 100 feet being common. The large South Station in Boston, the old Pennsylvania terminal in Jersey City, the Broad Street station in Philadelphia, the La Salle and Rock Island stations in Chicago, and the stations in Pittsburgh and St. Louis, have such train sheds of huge dimensions. Now, the great train shed, as part of the railway terminal, has disappeared. In New York, where trains are electrified some distance outside the city, the trains enter the terminals through subways. In cities where the trains are not electrified there are separate small sheds, each parallel to and covering two tracks, with ingenious continuous ventilators between sheds. Such is the arrangement in Washington and Kansas City, and was first used in the Delaware and Lackawanna station at Hoboken.

In Boston, New York and other eastern cities, there is a heavy suburban commutation traffic which requires considerable trackage, and which is apt to cause great congestion morning and evening. Most of the eastern stations are terminals, with very little through traffic. In Chicago, the stations are nearly all terminals for lines centering there, and to a lesser extent this is true of the St. Louis station. At Kansas City, however, we have a great way station for many transcontinental lines, with only a comparatively small number of lines terminating. On the western coast the stations are mostly of a combination type—terminals for the transcontinental lines and way stations for the coast lines. In the south there are separate accommodations, such as waiting rooms, dining rooms and comfort rooms, for negroes and whites. Washington presented a problem which was unique. The terminal which would have comfortably served the ordinary traffic to and from Washington would have been entirely inadequate for the great throngs coming to the capital every four years to witness the Presidential inauguration, so the terminal was planned to serve these quadrennial crowds. It is interesting to note

that even these magnificent proportions proved none too large for war-time traffic. The Washington station also presents the unusual feature of a special suite of rooms for the President.

In this country, checked luggage, express (goods shipped on the fast passenger schedules) and mail are usually handled at or near the passenger terminals, while heavy goods shipments on the slower freight schedules are handled quite independently. There are usually entirely independent so-called freight terminals and yards for this slower service. These terminals are ordinarily huge warehouses where goods are received on arrival or for shipment, and are plain buildings fulfilling the mere utilitarian requirement of enclosed space with convenient platforms for loading and unloading, adjacent to the railroad tracks. These structures will not be discussed in the following paragraphs which describe the more important terminals in the United States, taken in geographical order.

The South Station in Boston was built about 22 years ago by Shepley, Rutan and Coolidge, architects. It is one of the largest and busiest stations in the country, more than 700 trains arriving and departing daily. It has a great train shed ; the plan is not noteworthy, in fact it has developed serious faults with use. In design it is extremely simple, going but little beyond the utilitarian requirements of its purpose.

The Grand Central terminal in New York City is one of the newest and most complete terminals in the country. Reed and Stem, with Warren and Wetmore, were the architects. The station building proper is 300 feet wide and 688 feet long. The plan is a brilliant one. Electrified trains enter on two subway levels, one for express trains and the other for local and commutation trains. There are no stairways for use of travellers, all levels and storeys being connected by inclined planes or ramps of easy grade. The principal entrance leads by a short easy ramp into the large general waiting room, from here another short ramp leads into the great express concourse on the main level. Beneath this concourse is one similar in size, but with lower ceiling, for the local and suburban trains. Gates for direct access to each track open from each concourse. The principal features of the plan are simply arranged. Travellers arriving or leaving on express trains must pass through the architectural heart of the plan, the grand concourse. The subground-level arrangements of the terminal are extremely ingenious. The building connects, underground, with an interurban subway station and three great hotels. Shops of every description, where nearly every necessity of life may be bought, line the underground arteries of circulation. Ticket offices, parcel room, branch post office, open on the express concourse. Telegraph and telephone booths and minor parcel rooms occur in various parts of the building. The general waiting room is for both sexes, but off it at either end are rest and comfort rooms for men and women. The general dining and lunch rooms are on the lower concourse level, under the waiting room. The track yards are below the surface of the ground. This area is roofed over and used for streets and building sites. It is difficult to describe in words the stupendous layout of the Grand Central terminal. From the standpoint of serving as a connecting link between the travelling public and the railroad service, this terminal is undoubtedly a success, one of the really great modern plans.

In design this terminal is not nearly so successful. Influenced by the Modern French School, it is rather pyrotechnical in quality and possesses neither marked dignity nor impressive beauty. The vast dimensions are often dwarfed by the great scale of the parts. The distinguishing feature of the main façade is the range of three arched windows, each 33 feet wide and 60 feet high. The piers separating these windows are hollow and the great windows are double glazed. At different levels in the space between the outer and inner glazing, are glass floors, thus continuing, through crystal corridors, the circulation around the large lofty rooms, at the levels of the various stories in other parts of the building. The principal front is surmounted by a clock and group of sculpture representing Mercury flanked by Minerva and Hercules. This sculpture is of such colossal scale that the magnificent dimensions of the whole front are dwarfed, and its real dimensions are never realized Here and there, the interiors are more successful, but on the whole the interior design suffers from the same faults as the exterior.

The terminal building contains the railroad offices as well as space for rental.

The Pennsylvania terminal in New York is perhaps the most important work of McKim, Mead and White, and shows a great deal of Mr. McKim's influence. Like much of this firm's work, it is planned after the Italian fashion of fitting the whole scheme to the end of gaining architectural effect. Perhaps no finer example of a Classic Order exists in this country than the Roman Doric—almost Tuscan—Order of the Pennsylvania station. Perhaps no finer roofed space exists in this country than the magnificent general waiting room of this station—a room frankly adapted from the baths of Caracalla. One cannot help feel, however, that although the traveller may be rewarded by many beauties of plan and many impressive vistas, his comfort and convenience were not the most important considerations.

The principal entrance is through a stately arcade lined on both sides with shops. At the end of this arcade are the restaurant and lunch rooms on either side, and a flight of stairs leading down into the magnificent general waiting room. At the ends of this great room are flights of stairs leading up to the side-street entrances. The general waiting room is entirely finished in what seems to be Travertine marble, but one's enthusiasm is slightly dampened when he learns that above a few courses from the floor, the finish is but an exceedingly clever imitation of Travertine. The first impression of this glorious room with its soft colouring, its subdued map decorations by Jules Guerin, and the sunlight streaming in from some of the great clerestory windows, is an unforgettable one. This general waiting room contains the ticket offices, parcel rooms, telegraph and telephones, entrance to the baggage room, which is under one of the restaurants, and an entrance to the subway station. Adjacent to it are the driveways for incoming and outgoing cab service. But despite its name this great room is not a waiting room—there are no seats in it—it is only a magnificent architectural note in the scheme.

Opposite the entrance arcade, on the other side of the general waiting room, is a short passage into the Grand Concourse. On either side of this passage are two comparatively small waiting rooms, one for men and one for women, and accessible to these, but on the lower level, are appropriate rest and comfort rooms.

The Grand Concourse is a space about twice the size of the general waiting room. In it are the train gates opening on long flights of stairs leading to the train level below. Off the Concourse are stairways leading up to the surrounding streets. In this Concourse the interior steel columns, arches and trusses are left exposed. Where this structural work abuts against the masonry walls the juncture is not a happy one. One admires the frank declaration of structure but laments the ungraceful joining with masonry, especially when it is realized that often this masonry is but a useless covering for a continuation of the steel structure. The plan looks well on paper, its parts are well proportioned and balanced, but its great defect is that its principal feature, which should be the heart of the building, is but a designer's *tour de force* and not a functional centre, for the traveller may enter the terminal and board his train, or leave the terminal without passing through the so-called general waiting room which is so expressive of the city's welcome and hospitality. There are many other exits and entrances, more direct and convenient than the important line of circulation through this great room. The main features of the plan are fairly well indicated on the exterior.

The ground area of the Pennsylvania terminal is 455 feet by 800 feet. The general waiting room is about 100 feet by 300 feet. Across the street at the front, and directly connected with the terminal by subway, is the new Pennsylvania Hotel. Across the street at the rear, and built over the tracks, is the new General Post Office.

The Hudson terminals in lower New York are really huge office buildings occupying two squares. The basement and sub-basements are continuous for the two buildings, and are utilized as the terminals for the Hudson Tubes. These tubes include a connection to Manhattan Transfer, a station on the main line of the Pennsylvania Railroad a few miles out in New Jersey. Thus the Hudson terminals serve as a downtown terminal for the Pennsylvania. The tubes also serve as connections for two other railroads. The principal traffic is suburban, and the trains are all electrified. The terminal space is ingeniously planned, and includes all the accommodations of a complete railroad station, as well as many

shops of every description. Some idea of the size of this terminal may be gained from the fact that the twin buildings house approximately 12,000 persons. The exteriors are designed entirely as office buildings and have no relation to their use as terminals. Clinton and Russell were the architects.

Philadelphia has two stations of importance, the Broad Street Station of the Pennsylvania Railroad and the Philadelphia and Reading station. In both the tracks come in on elevated structures, and are covered with great train sheds. The space below the tracks in the Reading station is utilized as a market place. The head-house in each station contains the waiting rooms and other necessary rooms. Neither building is noteworthy in plan or design.

The Washington station is one of the largest and most elaborate of American stations. Its site was determined by the so-called McKim commission on the plan of Washington, and its architect, Mr. D. H. Burnham, was a member of that commission. The building fronts on a large semi-circular plaza at the intersection of two wide avenues. The plan is simple. The principal entrance is through the great arcade at the front directly into the barrel-vaulted waiting room, 220 feet by 130 feet in size. At one end of this waiting room is a space leading to the cab concourse, and on either side of this corridor are the ticket offices, parcels and baggage rooms. At the other end of the waiting room are the restaurants, beyond which, and entirely shut off from the rest of the building, is the President's suite. Back of this main waiting room is the concourse, 760 feet long. On this concourse open the train gates leading to the different tracks. Most of the tracks, and all the principal rooms of the station, are on the ground level. The plan is spacious, simple and direct, but has the defect of not compelling the traveller, by directness and convenience, to pass through the most important room of the scheme, the main waiting room, on arrival or departure. For those arriving by cab, especially, it is more convenient and direct to go straight to the concourse unless such travellers wish to buy tickets or attend to luggage, which they must go more or less out of their way to do. The exterior is dignified and impressive, expresses the plan well, but is rather cold and impersonal. It holds its scale well. The interiors are far less successful, and are not only cold and impersonal, but heavy in effect.

As was stated before, the Washington station was built to accommodate, not the normal travelling to and from Washington, but the great quadrennial inaugural crowds. This being considered an unjust burden on the railroads, the cost of this terminal was shared by the Government and the two principal railroads using it, the Pennsylvania and the Baltimore and Ohio.

The Rochester, N.Y., station, although comparatively small and simple, is noteworthy for its frank structure-revealing design and the use of coloured brick and faience for decoration. The plan is exceedingly direct and simple—an ample waiting room with the necessary utilities kept as compact as possible and grouped conveniently around it. Mr. Claude Fayette Bragdon was the architect.

The Pennsylvania station in Pittsburgh consists of three parts : a great domed *porte-cochère* or cab concourse and entrance, back of this a tall office building, the main floor of which is used for waiting rooms and other needed rooms, and back of all this the lofty train shed covering the tracks. The architectural effect is not indicative of a railroad terminal, yet the scheme fits the physical and practical requirements of the site well. The architect was D. H. Burnham.

The architectural mass of the Michigan Central station in Detroit is somewhat similar to that of the Pittsburgh station. Here we have a low, pleasingly-designed building expressive of a terminal, backed by a tall office building. The total result is neither congruous nor pleasing. The station plan continues through the main floor of the office building. The train sheds are of the modern low pattern. At the side is a surface car loop and cab concourse. Reed and Stem, with Warren and Wetmore, the architects of the Grand Central in New York, were the architects.

In Chicago there are six important railroad stations, each accommodating from one to several lines. Of these, one, the Chicago North-western, is of comparatively recent construction and thoroughly modern, though the planning is not as convenient as it might be, and there is considerable climbing up and down of stairs to make necessary connections. The old Union Station, so-called, used by the Penn-

sylvania, the Burlington, the Chicago and Alton, and the Chicago, Milwaukee and St. Paul railroads, is being replaced by an extensive and elaborate structure which has been much delayed by war conditions. It is said that this new station, of which D. H. Burnham & Co. are the architects, will rival the Pennsylvania and Grand Central stations of New York in completeness of lay-out and dignity of design. Of the older stations, the La Salle is perhaps the most noteworthy. It is used by the Wabash Railroad, some of the New York Central lines, and other important railroads. The main floor of this is one storey above the ground level, on the same level as the elevated tracks and the station of the inter-urban elevated line. The tracks are covered by one large train shed. S. S. Beman was the architect.

The St. Louis Union station, Theodore C. Link architect, was built almost a quarter of a century ago, and for several years was considered the finest and best equipped station in the country. It is of the great train shed type with the main waiting room a storey above the track or ground level. As is usual in this type of station, the ground level space under the waiting room is used as a concourse and additional general waiting space. The design is a modified Romanesque with a tall clock tower, and altogether is indicative of the plan. At one end of the building is a semi-detached wing used as a hotel.

The New Union station in Kansas City, Jarvis Hunt architect, takes high rank for effectiveness of plan. It is shaped like the letter " T," 550 feet by 600 feet. Its main front is along the head of the " T." The tracks run parallel to the front and cross the stem of the " T " a full storey below the main floor level. The entrances are through two wide arches in the main front, which lead directly into the great lobby. At one end of this lobby is a corridor leading to the cab concourse, with baggage and parcel rooms on each side of the corridor. At the other end of the lobby are the restaurant and lunch room. So far the plan of the head of the " T " bears a marked resemblance to the plan of the main part of the Washington station. At the centre of the entrance side of the lobby is a series of ticket booths arranged on a semi-oval projecting into the lobby. Opposite these ticket booths is an archway leading into the stem of the " T," which is the general waiting room. At each side of the general waiting room are wide corridors leading back to the general lobby. In these corridors are the stairways and elevators leading down to the track level, one set for each pair of tracks. Departing travellers use the train gates at the sides of the waiting room which lead directly to the stairs and elevators in the corridors. Arriving travellers pass down the corridors directly into the general lobby. Thus departing and arriving travellers never interfere with each other, and no traveller can reach the trains or reach the street from the trains without passing through the general lobby, around which all the utilities are conveniently arranged, and which is the feature of the scheme. Baggage is handled on the track level beneath the general lobby, mail and express in two low, track-level wings at either end of the building. The train shed system covers an area of about 500 feet by 1,500 feet, and is composed of low, individual sheds with continuous ventilators between them. Various railroad offices are placed in the upper storeys of the end wings of the front, in which are located the dining rooms, baggage and parcel rooms on the main floor. The building fronts on a plaza 300 feet wide, beyond which is a park. The design is overwhelmingly large in scale and brutal in detail, but is a frank, straightforward expression of the plan. There has evidently been a serious effort made to express the function of a gateway and vestibule to the city.

The waiting room is so intimately related to the train gates that there is perhaps less waiting in line at the train gates in this station than in any other large station, despite the fact that this ignoring of the waiting room is a popular habit of the restless American.

The Burlington station in Omaha, Walker and Kimball architects, is a small building of considerable charm in plan and design. It is a simple, almost severe, low domed Classic building. The pedimented portico leads into a large room under the dome. In the centre of this room is a great double circular staircase leading to the room below on the track level. The stairways are so arranged that one flight of the pair passes beneath the other, with obvious advantage in separating incoming and outgoing travellers.

Many important buildings have been omitted from this description mainly for the reason that the writer was less intimately acquainted with them than with those described, and again for the reason that the most important ones given have established types which to a greater or less extent have served as prototypes for later buildings. Worthy new buildings have been erected in recent years in Minneapolis, Denver, Dallas, New Orleans, Birmingham, Memphis, Richmond, Baltimore, Utica, N.Y., New Haven, and other cities. In the south-western part of the country, where the traditions of the old Spanish missions are still deservedly alive, several interesting stations have been built in this style. Those in Albuquerque, N.H., and San Diego, Cal., are good examples. Many small suburban stations of worth have been built throughout the country, among these, those designed by H. H. Richardson some twenty-five or thirty years ago for the Boston and Albany Railroad, still hold a distinguished place.

DISCUSSION ON MR. LUBSCHEZ'S PAPER.

Mr. John W. Simpson in the Chair.

[The Chairman, prior to the reading of the Paper, explained that it had been prepared at the instance of the Sessional Papers Committee, who addressed a request to the President of the American Institute of Architects that he would nominate some member who would give the R.I.B.A. the latest information about the great American terminals. He had nominated for this task Mr. Lubschez, who, however, thep greatly regretted, could not be present to deliver the paper in person. The President then asked Mr. Arthur Keen to be good enough to read it to the meeting.]

Mr. PAUL WATERHOUSE, F.S.A., in proposing a vote of thanks to the author of the Paper, said:

We may feel grateful to the writer for drawing our attention particularly to two things. One is the use of the grand manner in stations. This is very important, because the grand manner is essential for making monumental the things which are in large public use, and there is nothing larger in public use than stations. These, it has been well said, should express welcome to those who are coming in, and a kindly farewell to those who are going away. We ought to make our stations the best looking things in our town, for that reason if for no other. The other subject is the very important one which may be embodied in a sentence: that stations are intended not merely to make trains comfortable, but to make people comfortable. It seems to be better recognised in the States that the passenger is the important person: after all, he is the one who pays. When we get nationalisation of railways, which I hope we shall not, there will not be the competition between the various lines who cater for the public, and we shall have reason to fear a drop in the standard of public comfort. I think we ought to insist upon maintaining it. To us in England, in London in particular, this question of station building is bound to be of overwhelming importance in the near future. And the Americans can help us for this reason: they pick up all these affairs by the big end, and we pick them up by the small end. That is not our fault. We have been pioneers in many ways, but we have acted with timidity. You have only to think of the way in which the London and North-Western Railway first slunk into London. They said, "We will have a railway to London," and then fear came upon them, and they said, "It will never do to have a real live engine coming into London as far as Euston Road, it is impossible"; so they brought the engines as far south as Chalk Farm, and conveyed the passengers from there into London by another means. The Americans can teach us lessons as to how to deal with these things. The records of their stations, of their plan and design, will be of use to us as examples and, no doubt, as a warning. The writer of this paper has drawn attention to things which he considers faults, as well as to things which he regards as virtues. We have only to look at our railway stations in London to realise what has been done and what has yet to be done. St. Pancras, which was built with extraordinary forethought in the minds of both architect and engineer, is a long way ahead of other stations in London, and I shall always consider it one of the finest things in design and enterprise. Alongside of it is King's Cross Station, a curious example of a combination of boldness and timidity. The timidity should not have been there; if it had been bold all through it would have been a success. Liverpool Street Station is a case of decency without dignity. Dignity could have been there; it has great size, and has got enormous crowds to deal with, crowds which it cannot quite cope with even now, with all its enlargement. In Waterloo we see a laudable effort being made, and there is something of the grand style about it. It is our nearest approach to a proper station, and it is not completed yet. In Victoria Station there is a great effort, but hampered because it has gone in for length and not width; you do not want to walk a long way to the train when you get into the station. But that is not Victoria's fault; there isn't room for it to expand sideways, and therefore you have a long platform to traverse before you get to your train. Inevitably, certain stations will have to be rebuilt. All of us are optimists enough to know, as well as to

hope, that Charing Cross Station must go. Some of us hope Cannon Street will also go. At any rate, changes must be made. London Bridge Station, if it is not rebuilt, will drop to pieces some day. And we must rebuild them in the grand manner, and if we can get a hint from our friends over the water, so much the better for us, and we shall thank them for it. Now a word about the question of style and sincerity. As to style, I think there is every reason for copying the Romans. Had the Romans been spared to the present time, they would have beaten all the world in the matter of railway stations; it would have been just their job. We can see, by their larger basilicas and their big baths, how well they would have dealt with it. There is no need to hesitate in following classical models: the remarkable way in which the great free nation of America has placed itself under the happy bondage of classical architecture shows once more the claims that architecture has upon those classical models. With regard to sincerity, it is pointed out in this paper that sometimes the sincerity business has failed. In the McKim, Mead and White station the egregious use of bare steel columns makes artistic bathos when it comes against walls which are built in ordinary masonic style. We have got some way beyond Ruskin now; I do not say we shall forget him—we laid our foundations of art upon Ruskin, and he taught us invaluable lessons—but there was a great fallacy in Ruskin's doctrine of sincerity. If you say you must be able to see from the outside all that is within, you will blame the Creator, because no one wears his digestive apparatus outside! Covering is a legitimate process of art. Steel is unpleasant material to run up against in a railway station; it is nicer to run up against other materials, and it is nicer to look at other materials. And I can see no artistic or Christian reason why you should not cover up a steel stanchion with something nicer. There is no artistic harm in covering where such covering serves a useful purpose. One other small point. There is little mention of lifts here, and much mention of staircases. Mounting staircases can be a very toilsome business in a railway station, but toiling up ramps is very much worse. I am sure great attention will have to be given to the question of level, partly because in large stations we may have two levels for trains, or at all events, trains above and below the passenger platforms. And in crowded cities, like London, we are faced with the level difficulty in that the trains must come in either above the level of the adjoining roads, or below the level of adjoining roads. In places where the lines run out level with the street, the street system for half a mile along it is bisected and divorced one side from the other. We have a large system of overhead railways in the South of London, and a smaller system of subsoil railways in other parts, so the level question in the designing of railways is a very important one.

Mr. DELISSA JOSEPH [*F.*], in seconding the vote of thanks, regretted the absence of illustrations. Few things, he said, were more stimulating than the study of photographs and drawings of American buildings. So many of those buildings were marked by such distinguished individuality, by such an astonishing power of facing and dealing with new problems, often with brilliant success, that those present would have been glad of the opportunity that evening of looking upon some of the remarkable examples of work described in the paper.

Mr. W. J. H. LEVERTON, *Licentiate*, observed that the author had referred to an American station in which the incoming traffic was kept separate from the outgoing. This was often neglected in London termini. At the Brighton station at Victoria, the incoming and outgoing traffic was hopelessly mixed, and led to much congestion and delay. Illustrations, of course, would have been interesting, but the descriptions were so clear that the plan and design could be very well followed without them.

Mr. EDWARD W. HUDSON [*A.*], remarked that his sojourn in America had not allowed him to visit many of the places named in the paper. But from some knowledge of the Pennsylvania Station in New York City he could say that it was a very noble example of the style in which it was designed, although as an old Gothic student he was not particularly interested in the style. It was much more sober and restrained than the Grand Central Station—a specific piece of Beaux-Arts work. The designers of that station, and those who assisted them, were, he believed, practically trained in Paris. The interior decoration work, the frescoes and the bronze and marble work, were certainly very fine. Some of the stations in rural places in the States had no architectural interest, but on the whole those in New York were very successful.

THE CHAIRMAN, in putting the vote of thanks, said:

Mr. Waterhouse has dealt very fully with the paper, which was an admirable one, and it struck me as being marked with an unusual gift of imagination. The paper suffers, of course, as Mr. Joseph said, from not being illustrated, and that is a very great drawback; but I think I have rarely read a paper—and I had the privilege of having a copy before me—in which I was able more easily to visualise to myself the plans which were being described. I thought it very excellent. And there was a touch of imagination in the writer's description of the objects of a station, that, after all, the arrival station in a city is the great Propylæa, the gate of entrance to the city itself; that is how the stranger first sees the city. Here, we come through lines of chimney pots when we arrive at Liverpool Street station, and I can imagine nothing more depressing. And the reason, I think, as Mr. Waterhouse pointed out, that the London stations are so lacking in mass and in breadth of arrangement is that they were not planned by architects, but by engineers. Engineers have no imagination, they never could plan a building.

After they have planned a building all wrong, the architect is called in, and requested to put a coat of architecture on it—as though he could do it with a pot of paint. Fine architecture can never be got in that way. If it is to be planned, the technical knowledge of the engineer must be called into play, but he must have with him an architect who is used to co-ordinating the whole of the conditions which are necessary to create a great plan, to plan a railway station. Without that, we shall never arrive at a great plan for our railway termini.

Mr. KEEN, responding to a vote of thanks passed to him for reading the paper, said that by a curious coincidence on the only two previous occasions when he had read architectural papers for their authors both papers were from America. The last was by Mr. Mulford Robinson, which he read at the Town Planning Congress a few years ago, one of the most beautiful pieces of English composition he had read. The other was by Mr. Clipston Sturgis, read at the Architectural Association: a very finely composed paper, and profusely illustrated. It was a great regret to him that this most excellent paper by Mr. Lubschez had not the accompaniment of a series of lantern slides, to show what the stations looked like.

THE LATE H. W. LONSDALE.

Being one of the few remaining old friends of the late H. W. Lonsdale, I thought it might interest your readers to have a slight account of the life of one of such considerable and versatile ability.

His family has furnished some distinguished naval and military men. But the subject of this short memoir was the only one of the family that showed any considerable talent for the fine arts, though his mother had some knowledge of miniature painting. His father held a Government appointment in Mexico, where Lonsdale was born. At a very early age he was sent to England to commence his education. Then he went to France and Germany to complete it. Spanish he readily acquired from his early life in Mexico. Italian I think he learned after gaining a Travelling Studentship at the R.A.

I think I am correct in saying he was articled to Mr. Kindle, the architect, and entered as a student at the R.A. Soon after his travels in Italy, Sicily and Greece, he entered the office of the late W. Burges, A.R.A., who with his usual discernment quickly realised Lonsdale's ability. Together they drew up a scheme for the glass and mosaic pavement for Cork Cathedral, on which Mr. Burges was engaged. This led to Lonsdale taking up decoration. I, with many others, feel that in this way a very able architect was lost to the world.

He completed the glass and decoration for Cork Cathedral and the glass and decoration for St. Mary's, Whitechapel, for his brother-in-law, Mr. Ayton-Lee. He designed and carried out the decoration of Cardiff Castle, under Mr. Burges, for the late Marquis of Bute. After Mr. Burges died Lord Bute came to him for decorative, heraldic and historic work. Also for seals, bookplates, etc. Many of his architect friends came to him to design and execute windows for them.

Lonsdale was no poor exponent of the art of painting, though he had a very modest opinion of his powers. His two-hour sketches were greatly admired by many distinguished painters. He studied from the life at the evening class at the Slade School, and showed considerable pluck when a middle-aged man in going to Antwerp to study painting, afterwards working at night at the Langham. His great pleasure was to go away sketching with a brother artist, and he has left many beautiful records of such trips. He was also a great authority on Perspective, holding the post of Examiner at South Kensington under the Board of Education for some years.

His unselfish disposition and most lovable qualities endeared him to all his friends, and his knowledge was always at the disposal of any that sought it.

He joined the Architectural Association in 1864, and took a considerable share in starting the *A.A. Sketch Book:* many of his drawings will be found in the earlier volumes. In 1873, in conjunction with E. J. Tarver, he published *Illustrations of Mediæval Costume.* He was elected an Hon. Associate of the R.I.B.A. in 1896. He died of heart failure at his brother's house in New Brighton, Cheshire, and his body was laid to rest in his parents' grave in Teddington Cemetery, close to the spot where his sister and her husband, E. C. Ayton-Lee, were buried.

R. W. MADDOX.

Decimal Coinage.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—I was privileged, at the command of the President, to represent the Royal Institute at a meeting at the Mansion House, under the chairmanship of the Lord Mayor of London, on 14th October, on the subject of Decimal Coinage. After a short address from the chair, in which the importance of the subject was acknowledged, the meeting was addressed by Sir Gilbert Molesworth, who successfully introduced decimal coinage into Ceylon in 1875, after five years of opposition, and who gave an account of the ready way in which it was accepted and of its beneficial results. Mr. E. C. Barton then gave a vigorous speech, in which he said that Australia had wanted this coinage change for years, but could not take action effectively unless the mother country did so. He expatiated on the great saving in the matter of book-keeping and the importance of this aspect in view of increased salaries. He said that progressive firms thought machinery more than fifteen years old was detrimental, but that our system was a thousand years old and that every civilised country but ourselves (even Persia and Siam) used the decimal system. In an interesting historical review the speaker pointed

out that a bill embodying the present proposals was introduced in 1824, and that after the destruction of our standards by fire the matter was again brought up in 1856. The present system, he contended, was not made for the needs of to-day; and, as indicating changes, he mentioned that only 120 years ago the Bank of England gave wooden tallies as receipts for money. Though an international coinage was impracticable, in which connection the disastrous scheme of Louis Napoleon was cited, bankers, chambers of commerce and the Decimal Association all favoured the scheme before the meeting, which had had very careful thought and discussion. This is to retain the pound, double florin, florin, shilling and sixpence, the two last to be denominated half and quarter florins respectively to make two new nickel coins, the ten and five mils, and to call the penny, halfpenny and farthing respectively 4, 2 and 1 mil. The crown, half-crown and threepenny piece would be withdrawn. Arrangements would be made for withdrawing the present bronze coins at their present value, 25 mils being exchanged for each 6d. in coppers. No decimals need be used. Thus, £1.250 would be £1 2f. (florins) 50m. (mils). These arrangements and the many advantages of the system are set out in a pamphlet entitled *Decimal Coinage*, published by the Decimal Association, of 212, Finsbury Pavement, E.C. Other speakers followed and a resolution was carried urging the Government to take immediate action at a time considered especially propitious.

I must hardly trespass on your space by comment, but any scheme to reduce calculations and to bring us more on to common international ground must, I venture to suggest, merit all the support the Royal Institute can give. Incidentally, there will be many people who will miss the half-crown, and, what is more important, it would seem desirable to find means for preventing every penny article rising to the value of 1 mil—one-tenth of the half-florin—equal to 1·2 current price.—Yours, etc.,

ALAN E. MUNBY [*F.*].

Liverpool Architectural Society: Sessional Programme.

20th October.—Paper by Sir Ambrose Poynter, Bart. [*F.*]: "Architecture in South-East Italy."

3rd November.—Address by Lord Leverhulme [*Hon. F.*].

17th November.—Dinner to Overseas Members of His Majesty's Forces.

8th December.—Paper by Capt. E. J. Rimmer: "Building Contracts."

19th January.—Paper by Major Gilbert W. Fraser, M.C., R.E. [*F.*]: "An Architect at the War."

9th February.—Paper by Mr. Walter J. Hide: "Electric Installation of Small Houses."

23rd February.—Paper by Mr. J. Henry Sellars: "An Architect's Use of a Library."

8th March.—Paper by Mr. Herbert L. North [*F.*]: "The Flower Garden."

9 CONDUIT STREET, LONDON, W., 22*nd October* 1919.

CHRONICLE.

Peace Congratulations: Response from America.

Omaha, Nebraska: 26 *Sept.* 1913.

DEAR MR. SIMPSON,—The American Institute of Architects, through the Executive Committee of its Board of Directors, acknowledges with deepest appreciation the message of greeting and congratulation contained in your cablegram, and trusts that a closer and a deeper sympathy may in future bind together the architects of our several countries—one of the profound benisons that shall justify the war and its cost and to which we, in our full acceptance of the final justice of all things, confidently look forward.

In the delay of this response is voiced the desire to have it shared in by the Executive Committee of the Board of Directors, whose recent action this note records.

Believe me, my dear confrère, most sincerely yours,

THOMAS ROGERS KIMBALL,
President, American Institute of Architects.

Desolation and Distress in France.

The following notes by the President, Mr. John W. Simpson, describing his impressions of a recent tour through the war-ravaged districts of France and Belgium, made at the invitation and under the guidance of the French Red Cross, appeared in *The Builder* of the 3rd inst.:

Insistent among the rather blurred impressions of a rapid journey through the battlefields of Northern France is the picture of barbed wire and shells. Rusty wire and rusty shells. Wire in tangled masses, wire neatly tied in faggot-like bundles, wire in rolls, shells and shell cases—great and small—in thousands of thousands. Wire and shells piled along the roadside, wire and shells collected in innumerable, immense "R.E. Dumps," enclosed with still more wire. Lorries, too, in incredible numbers, close ranked in long-stretching streets; rusty and filthy like the shells and the wire they once carried, standing incongruous and unsheltered in the open fields. Above all, the sense of bareness. To those who know France, the destruction of the trees, which shaded the roads and made them so beautiful, is even more shocking than that of the towns. The latter can be rebuilt, though their

historic interest is obliterated; but trees take long a-growing, and many a generation must pass along white, sun-scorched tracks, and curse the vile Boche who has sawn through every single trunk, leaving but a foot-high stump. Nor, on the authority of competent soldiers, was there any military pretext for this outrage, done in mere malice by beaten barbarians. Such trees as remain upon the countryside are dead, mutilated and flayed by shell-fire. The lovely woods are indicated only by scattered groups of ragged, broken poles bereft of foliage. The extent of the desolation is appalling. A tract of country fifty kilometres wide, which extends for hundreds of miles, lies ruthlessly and systematically devastated. Not so much as a labourer's cottage has escaped.

So far as the revival of agriculture is concerned, fair progress seems to have been made in some parts, and crops are being got in. Thousands of Boches are filling in shell-holes, trenches and dug-outs, clearing the fields of the eternal wire, and collecting shells. Big, upstanding fellows these prisoners are—taller on the average, one would guess, than our own men—their physiognomy distinctly brutal as to a large proportion. Though their uniform does not show them to advantage, they look well-nourished and in good condition; the French soldiers, indeed, complain that the Germans are better fed than they are themselves. The "Chinks," too, of the Chinese labour battalions are of surprisingly good physique; picturesque figures in their light, thin clothing, they seem less out of harmony with their surroundings under the blazing sunshine than the Teutons of the P.O.W. camps.

In other sectors the fields remain as the war left them; torn and pitted by high explosives, their surface churned into uneven masses as by an earthquake. High roads everywhere are cleared, and shell-holes filled in more or less; but there is nothing of the "joy-ride" in motor travelling, and when running over the uneven, defective "chaussées," cars and passengers alike approach the limits of their endurance.

Of the ruined towns there is little to be said, save by way of memory of what they were. One heap of building rubbish is much like another; maps and sign-boards may tell you that these broken masses of stone and brick, to which tenacious fragments of roofs and floors still cling, were once La Bassée, and that those were Peronne; there is nothing but the site by which to identify the busy, interesting town we once knew. Some, like Arras and St. Quentin, are still standing, though, so far as could be seen, without a building, small or great, undamaged. The returning inhabitants fill their glassless windows with oiled paper or other semi-transparent material, patch the roofs, walls and ceilings as best they may with sheets of corrugated iron, or whatever is available, and resume their interrupted life. St. Quentin market-place is brisk and busy, despite a gang of Boches digging for an unexploded mine by the Hôtel de Ville, under guard of two "poilus" with persuasive-looking bayonets.

Speaking broadly, reconstruction is not even touched at present; the buildings, where not demolished, are insecure to danger point, and it is to be feared that many will collapse when heavy weather sets in. The sewers under the shell-cratered roadways must be in lamentable condition, and epidemics would cause no surprise. Heating, lighting, water supply, are all lacking, or at best very defective; winter will bring much misery to these hapless communities. Yet the refugees will not be denied; they make their way back even into such places as Lens, where streets and houses are mere chaos of brick refuse, slates, and rafter-ends. They seek out what they decide to be their former dwelling, construct a lean-to of rough boarding or sheet-iron, and support life as they may; it is often hard to say how, for in some places the very roads are destroyed, and these poor campers-out are quite inaccessible by wheeled traffic.

Among these sufferers the British Committee of the French Red Cross carries on its noble and courageous work. Unpaid, unseen, living under conditions of great hardship (their flimsy quarters at Vitry were fireless last winter), these devoted folk, mainly women and girls, distribute to the necessitous according to their wants. The organisation is excellent, the methods of relief effective and economical: each case is visited, the needed "marmite," "casserole," bedding, food is supplied—but never money. The duty is difficult and trying, not free from actual danger. A girl takes out her lorry of supplies alone, for hands are few; she must do her own running repairs in case of breakdown, she is without means of defence, and the country is far from safe. But a fortnight back a British officer was murdered outside St. Quentin; "I dare not allow my girls out in the town after sunset," said a Lady Commandant. There is hospital work as well, casualties from unexploded shells, for instance, are frequent; detonators have a fatal attraction for children, and there are always several cases of little hands or fingers blown off by those dreadful playthings.

Certainly a visit to the devastated zone is a very saddening experience; yet amid the gloom the French Red Cross glows bright and reassuring, a symbol of present help in time of trouble, of hope for future salvation.—J. W. S.

. . . . .

In the same issue of *The Builder*, Sir Banister Fletcher [*F.*], who accompanied the President, gives the following account of the tour:

Leaving London on Wedesday, 3rd September, a halt was called at Boulogne for the first night, and this town seems to have suffered comparatively little damage owing to the excellent local aerial defences. An early start was made from Boulogne on the 4th, when the party commenced its pilgrimage in staff cars of the French Red Cross. Passing up to the heights above Boulogne, the high road to St. Omer, which was, like most others, in bad condition, owing to war traffic and war-time neglect, was reached. St. Omer itself, planted on rock amidst islands and canals, was for a time the headquarters of the British Expeditionary Force, and received the attentions of the Boche suitable

to its importance as a military centre. The old tower of St. Bertha still rears its mediæval head above its neighbours, and much of the war damage to this once walled and fortified city seems already to have been made good.

Hazebrouck, on the River Bourre, an important railway junction, was next reached. After a run through Bailleul in making our way towards Ypres, we received the first great shock: for here, on either side of the highway, a scene of desolation was opened out before us, particularly noticeable in the tall poplar trees, which when not shot down had been rendered lifeless owing to the bark having been stripped off by shell fire, so that they appeared as dead, not as living trees. These flayed trees, which had been the guardians of the highway of social intercourse and commerce, were to us the first grim testimony of the death-dealing destruction of war.

Arrived at Ypres, the shock was intensified when we beheld that which to all intents and purposes has been left a city of the dead—dead activities, dead buildings, dead streets and departed citizens. The contrast between a visit in 1913 and to-day is, indeed, heartrending. Then, its streets resounded with the hum of busy life, its chimes pealed out from cathedral and churches, and it is not too much to say that Ypres as Ypres no longer exists. The Cloth Hall is stripped of its historic glory, the Town Hall is stricken to the ground, the Cathedral is rent in twain, and even the Market Place is scourged out of recognition. Photographs will have rendered this clear, but nothing short of a visit to the spot will make it possible for anyone to visualise the tragedy of a city ruined and laid low by continued bombardment. The open market-place itself is hardly recognisable by reason of the shell-holes which have rent its surface, and the mounds of ruins which are piled around. The Cloth Hall is a mere shell which only retains some portions of its outer and lower walls and a fragment of its tower. The rows of historic statues have been shot away, as also the roof, with its fine mediæval vaulting, beautiful traceried windows and frescoes of the history of the town; while even the small parts which remain are so lumbered up with mounds of fallen masonry that they are difficult to outline, even by an architect who is familiar with the original plan. The well-known Renaissance Town Hall alongside has been wiped out, while of the adjacent Cathedral only parts of the lower structure still stand. The street itself has been pierced by shells, which have exposed the underground water-course. With much difficulty we made our way through piles of fallen masonry to what is left of the Cathedral, and this is practically unrecognisable in its fallen state. So thorough has been the destruction that we failed to find any traces of the inn on the Grand Place where we had enjoyed a French *déjeuner* before the war. The city in its present state reminds one more of Pompeii, in Italy, or of Timgad, in North Africa; but in reality the damage is still more thorough, as even the streets have been destroyed, and one cannot, as in these ancient ruins, trace the marks of the chariot wheels on their stones. It is said that the Belgian Government does not intend to attempt to rebuild the city, but will build a New Ypres outside the old, and leave the piles of ruins, which were once a town, as an enduring monument to German shame and German perfidy.

With a heavy heart we passed on our way to Menin, and across the frontier to Tourcoing, always amid ragged scenes of desolation similar to that which was concentrated in Ypres. Reaching Croix, a commune outside Lille, we saw the calculated destruction of the great wool-combing factory; all the machinery had been wantonly wrecked by the Germans during their stay.

Next day we made an early start for Lille, where the damage done early in the war was already in course of repair so as to restart the industrial life of this busy town. We visited the dump on the outskirts of the city, the blowing up of which by treachery had shattered the neighbouring buildings. Here, numbers of German prisoners in their drab green uniforms are employed on a variety of works. It was with a strange mingling of feelings of surprise and satisfaction that one saw these gangs of enemy workers set to restore that which they had destroyed.

We then proceeded to La Bassée and Lens, leaving Loos on our right, to Vimy and the Vimy Ridge, and so on to Arras, another of the ruined cities of the plain where the old Hôtel de Ville, dating from the sixteenth century, retains only a stump of the graceful and soaring Renaissance belfry which formerly dominated the market-place from a height of 250 feet. The arcaded buildings which stood around the spacious Grande Place and the Petite Place have been gashed, rent and scarred, so that only mutilated phantoms stand around heaps of stones collected together from various buildings; and as we gaze on this and similar scenes we seem to see a stone quarry from which the great spirit of France will once again repair the waste of desolation and raise again the cities that have been thrown down.

Proceeding north-eastwards, we made for Vitry. The Society is here carrying on its work in a most practical way by supplying returning refugees with the necessaries of life, clothing and household utensils. We then proceeded to Douai, famous for the "Douai Bible," and situated on the canalised channel of the Scarpe. Passing through ruined streets, it was an agreeable surprise to find that the noble Hôtel de Ville, dating from the fifteenth century, with its five-storied belfry, apparently remains intact. After a short stay here, a start was made on the road to Cambrai. Throughout the day we noticed that the country had completely lost its original character, because the Boches had sawn off, about 2 feet from the ground, the great poplar trees which formerly lined the main highways, and these tree stumps stand as a memorial of the wanton nature of German occupation. We now took up our last stage on the road to St. Quentin. This was one of the worst roads we had to traverse, for incessant war traffic had made many and deep impressions on what was once the fine surface of a *route nationale*. Passing through Le Catelet, we paused to examine the Bellicourt Canal, made by Napoleon I. to pass underground through the mountains and so to connect the water highways of that district. This was used by the Germans as a safe retreat from shell fire.

The following morning we made a hurried survey of the damage, which has been considerable, although the Hôtel de Ville, of the fifteenth century, with its façade of pointed arches, has escaped. The fine Cathedral of St. Quentin, dating from the twelfth and fifteenth centuries, has received so much attention from the Boches that the roof and most of the vaulting have gone, but the famous circular transept windows still remain. It was interesting to note how the destroyed flying buttresses had already been replaced by timber strutting to hold the walls in position. St. Quentin was one of the few places where we noted any attempt at reconstruction, either in churches or secular buildings; the French may be waiting for the distribution of the indemnities which they look to receive before proceeding to carry out this work.

About midday we started for Peronne, a small town on

the Somme, with the destruction of which many photographs and war pictures have made us familiar. From here to Albert, on the Ancre, the country presents an even more desolate appearance, and shell-holes pit the surface of the land like pock-marks, so that one would despair of its ever again bearing fruitful crops, did not one know the amazing energy and power of recuperation of our gallant Ally. Albert rivals Ypres in its total destruction, and many will recall the statue of the Virgin leaning suspended, as by a miracle, from the tower of the Cathedral, which has now been jealously removed to safer quarters.

We next made for Amiens, for the night. We had now left behind us the nightmare of ruins ; and, though Amiens itself was hit by gunfire, it does not appear to have suffered greatly compared with the cities in the war zone. The west front of the Cathedral was defended by sandbags, which have now been removed, so that the beautiful sculptures, so lovingly described by Ruskin, remain intact. . .

Next morning we slipped early out of the silent city on our way back to Boulogne, and now, almost for the only time, enjoyed the peace of a comparatively good road, as we journeyed with the valley of the Somme in view to Abbeville. Beyond certain damage to farmhouses along the route, we were out of the region of devastation and destruction. . . .

To Lieut. Parker-Cater and the officials of the French Red Cross we record our grateful thanks for all the careful provision so successfully made for this interesting but saddening expedition. The circle of our tour of 400 miles was completed at Boulogne whence we had started, and we took boat to England with a sense of gratitude deeper than ever before that the silver sea encircled our little island and thus ensured our country against the fiendish destruction of a foe who had no regard for the dictates of humanity, for laws of war, or for treasures of art, who spread destruction for destruction's sake, sacking, breaking and ravishing as he went. . . .

The fair land of France lies torn, mangled, and bleeding from every vein, from city, town, commune and countryside in this appalling war zone, and it remains for those who are still safe and untouched to come to the help of the brave and practical Red Cross of France to heal the wounds that fair country has suffered in the cause of all humanity.

Wooden Frame Houses.

The Ministry of Health, in issuing a memorandum authorising relaxations in the Building By-laws, makes the following statement :—

A special investigation into the possibilities of using wooden frame houses as part of the Government housing scheme was begun, a few months ago, by a Committee appointed by the Minister of Health to inquire into new methods of construction. This Committee, which includes outside experts, have considered and approved a large number of new materials and new methods of construction which would not conform with existing building by-laws. Steps have been taken to render the adoption of such methods practicable by relaxing the requirements of local by-laws, and general regulations authorised by the new Housing Act are being issued for this purpose. . . .

The inquiry into the use of wooden frame houses is not complete, but the information at present available goes to show that when regard is paid to present, not pre-war, prices, to cost and difficulty of freightage, to the cost of adaptations and of fittings to comply with English standards, a wooden frame house from British Columbia, with accommodation, fittings, and conveniences for domestic use approximating to those now required in Government assisted schemes, is not likely to be completed for much less than £700, and the cost may not improbably be even more.

It is essential, in comparing the relative merits of wooden houses and houses of other modes of construction, to be quite sure that the comparison is between buildings of the same accommodation and providing the same fittings and conveniences. It is misleading to compare—as is frequently done—the cost of a complete brick house ready for occupation with that of a wooden shell, which is good enough as an outer framework, but cannot become a home until many things have been added and much additional work done.

The brickwork of an ordinary cottage represents only about one-third of the total cost. If the accommodation to be provided in houses to be compared is the same, and the same standard of fittings and conveniences be provided, the cost of the remainder of the house—representing two-thirds of the cost—will be the same whether the house be of brick or wood. Any possible saving must result from the difference between the cost of the brick shell and the cost of the wood shell. So far as figures have been obtainable the amount saved by using a wooden shell is at most 6 per cent. of the total cost of a similar brick-built house.

The Canadian wooden house, commonly referred to, differs in many respects from the house which a tenant in this country expects to obtain. These wooden houses, for instance, have as a rule a basement containing a stove for central heating of the whole house. This method of heating differs entirely from that to which the English housekeeper is accustomed, and, if the English prejudice in favour of the open fire is to be respected, considerable modifications in internal design and construction are inevitable.

The points in favour of the adoption of the wooden frame houses are some reduction in cost, which is not, however, likely to be very large, and in ordinary circumstances greater expedition in erection.

On the other hand, the wooden house must in the main be regarded as suitable for use in rural or other sparsely-populated districts. The greater risk of fire cannot be ignored, and increased insurance rates will, no doubt, be required for this type of building ; the extensive building of wooden houses in thickly-populated towns cannot be contemplated. The risks of vermin have also to be borne in mind ; the wood is not rendered vermin-proof by covering it with cement stucco or asbestos sheets.

Further, although there exist examples of old wooden houses, built of the best quality of timber with scantlings much heavier than those in common use to-day, which have lasted many years, it must be expected that the modern wooden frame house will ordinarily have an appreciably shorter life than the equivalent brick house. And as regards the prospect of greater speed in building it must be remembered at the present time that the trades of carpenter and joiner are among those in which the greatest scarcity obtains in the building trade.

As already stated, further information on the question of wooden houses is being obtained and sample houses are to be brought from Canada and erected in this country. Regulations are being issued enabling local authorities to allow this and other special methods of construction. The Ministry of Health are anxious to encourage any form of construction which promises dispatch or economy, and any reasonable experiments with these objects will be welcome.

L.C.C. Superintending Architect.

At the meeting of the London County Council on the 7th October, a resolution was passed recording on the retirement of Mr. W. E. Riley from the office of Superintending Architect the Council's appreciation of his ability and its recognition of the high sense of duty displayed by him during his twenty years of service. A supporter of the motion said that Mr. Riley's tenement buildings were as near perfection as was possible within the limits allowed

him. Mr. Riley, in acknowledging the resolution, mentioned that over a thousand buildings erected in London for war purposes had passed under his supervision.

Mr. George Topham Forrest [*F.*], F.G.S., who succeeds Mr. Riley, is a native of Aberdeen and was educated at the Grammar School and University of that city. After serving his articles with Messrs. Brown & Watt, of Aberdeen, he came to London and entered the office of Mr. J. Macvicar Anderson, with whom he remained four years. He then filled for a year the position of principal architectural assistant with the Leeds City Engineer, and was subsequently for seven years in the Architects' Department of the West Riding County Council. Appointed County Education Architect for Northumberland in 1905, he relinquished that post to assume in January, 1914, the position of County Architect for Essex, for which he was selected out of 156 applicants. Mr. Forrest has specialised on institutional buildings such as asylums and schools. He assisted in the design and erection of the pauper lunatic asylum at Storthes Hall, near Huddersfield, and of the Scalebor Park private asylum near Leeds. When the Education Act of 1902 was passed, Mr. Forrest was placed in charge of work relating to the architectural inspection of 900 elementary schools, and as County Education Architect for Northumberland he carried out nearly all the school work for that county, building thirty-three new schools and superintending many alterations. He also designed the High School for Girls at Morpeth, a secondary school at Whitley Bay, and a technical institute at Wallsend-on-Tyne. As Essex County Architect he was responsible for the preparation of Essex Council's great housing scheme which is to cost 3½ millions, and embraces not merely housing, but the reclamation of derelict land, the provision of light railway, wharves, drainage and maintenance of sea walls, and agricultural education. Early in the present year Mr. Forrest was appointed a member of the Advisory Committee for the supply and control of materials. For his present appointment Mr. Forrest was selected out of 44 candidates.

Architectural Appointments.

Mr. Ernest Newton, R.A. [*F.*], has been appointed Honorary Architect to the Ministry of Health, with the special duty of assisting the Ministry to safeguard buildings of architectural or historical interest which it may be proposed to repair as part of a rural housing scheme.

Professional Notices.

Mr. Sydney Tatchell [*F.*], of 25, Queen Anne's Gate, has entered into partnership with Mr. E. H. Bourchier [*F.*] (Messrs. Bourchier and Galsworthy), of the same address. Their practice as architects will be carried on under the style of Messrs. Bourchier, Tatchell and Galsworthy, at 25, Queen Anne's Gate, S.W.1.

Wanted, Architectural Assistant for Hong Kong, A.R.I.B.A. preferred. Age about 30. Single. Salary 300 dollars (Mex.) a month. Agreement for three years.—Write G. G. W., c o Secretary R.I.B.A., 9, Conduit Street, W.

Associate, recently demobilised, wishes share of offices with architect, preferably W.C. district.—Address, M.G.R., c o Secretary R.I.B.A., 9, Conduit Street, W.

Meritorious Service Medal: A Correction.

It was Mr. T. A. E. Lofthouse who was awarded the Meritorious Service Medal, not Mr. T. A. Lofthouse, as stated in the last issue of the JOURNAL.

NOTICES.

Election of Members, 1st December 1919.

Applications for election have been received from the undermentioned gentlemen. Notice of any objection or other communication respecting them must be sent for submission to the Council prior to Monday, 3rd November.

As FELLOWS (22).

AYRTON: ORMROD MAXWELL [*A.*, 1903], 3 Verulam Buildings, Gray's Inn, W.C.; 9 Church Row, Hampstead, N.W.

BLUHM: QUENTIN MANGNALL [*A.*, 1910], Victoria Chambers, Fishergate, Preston; and Whitecote, Devonshire Road, St. Anne's-on-the-Sea, Lancs.

BOUTCHER: CHARLES GEOFFREY [*A.*, 1910], Alor Star, Kedah, Malay Peninsula.

BROWNRIGG: ANNESLEY HAROLD [*A.*, 1908], 69 Chancery Lane, E.C.; and The White House, Milford, Surrey.

CHETWOOD: HENRY JOHN [*A.*, 1910], 5 Bedford Row, W.C.1; and Brook House, Bishops Stortford.

GAMBLE: HENRY GILBERT [*A.*, 1891], Bank Street Chambers, Lincoln; and "Budleigh," The Grove, Lincoln.

GRANT: THOS. FRANCIS WILTSHIRE, M.C. [*A.*, 1910], 11 Buckingham St., W.C.2; & 148 High St., Kensington.

LE MAITRE: WILLIAM COURTENAY [*A.*, 1905], 63 Finsbury Pavement, E.C.; and 58 Palace Court, W.

MAUFE: EDWARD BRANTWOOD, M.A.Oxon. [*A.* 1910], 3 Raymond Buildings, W.C.1; and 139 Church Street, Chelsea, S.W.3.

MOORE: LESLIE THOMAS, M.C. [*A.*, 1905], 3 Raymond Buildings, Gray's Inn, W.C.1; and 3 Squires Mount, Hampstead.

OLIVER: BASIL [*A.*, 1910], 7 Southampton Street, Bloomsbury, W.C.1; and 148, Kensington High Street, W.8.

SCOTT-MONCRIEFF: WILLIAM WALTER, M.C. [*A.*, 1912], 11 Gray's Inn Place, and 13 Hart Street, W.C.1.

SMITHERS: ALEC [*A.*, 1908], Skinners' Hall, 9 Dowgate Hill, E.C.; and The Manse, Bishops Stortford, Herts.

STONE: HENRY SPENCER WALCOTT [*A.*, 1904], 54 North Street, and Kingswood, Staplegrove, Taunton.

TENCH: EDWIN JAMES [*A.*, 1901], 15 Court Chambers, The Walk, Norwich; and Riverside Road, Norwich.

WILLCOCKS: CONRAD BIRDWOOD [*A.*, 1912], 11 Friar Street, and Willstead, Caversham Heights, Reading.

WILLS: FRANK REGINALD GOULD [*A.*, 1892], 34 Finsbury Pavement, E.C.2; and 83 Badminton Road, S.W.12.

And the following Licentiates who have passed the qualifying examination:—

DRIVER: ARTHUR JAMES, Surveyor's Office, Grocers' Hall, Princes St., E.C.2; and 8 Trafalgar Square, S.W.3.

ESCH: VINCENT JEROME, Architect-in-Charge, Victoria Memorial, Calcutta.

KIRBY: EDMUND BERTRAM, O.B.E., 5 Cook Street, Liverpool; and Overdale, Oxton, Birkenhead.

SANDY: HENRY THOS., 22 Greengate, Stafford; 71 Temple Row, Birmingham; 9 Albert Square, Manchester.

WILKINSON: STEPHEN, Standard Buildings, Dalhousie Square, Calcutta; and Lingdale, Bournemouth.

As ASSOCIATES (142).

[Except where otherwise indicated, the candidates have served with H.M. Forces, and, being Students and duly qualified, have availed themselves of the concessions granted to Students so serving [see Special Regulations, JOURNAL for March 1918].

ADDEY: FREDERICK ARNOLD, P.A.S.I. [*S.*, 1913], 48 Penywern Road, Earl's Court, S.W.

ADDISON: JOSEPH [*Special War Examination*], 9 Church Terrace, Turriff, Aberdeenshire, N.B.

ASLIN: CHARLES HERBERT [*S.*, 1913], 73 Lennox Road, Hillsboro', Sheffield.

ARMSTRONG: EDWARD WILLIAM [*Special War Examination*], c/o Architectural Association, 35 Bedford Square.

ASHMAN: HERBERT WILLIAM [*S.*, 1913], Bryher, 52 Kingston Road, Teddington.

BADCOCK: PAUL [*Special War Examination*], 8 Woodside, N.W.4.

BARTLEY: ALVA MARTIN [*Special War Examination*], Ewen Street, Takapuna, Auckland, N. Zealand.

BATTISCOMBE: HUMPHREY [*S.*, 1918], Beverley, Orpington, Kent.

BEATTIE: OSCAR ALEAXNDER [*Special War Examination*], Wagga Wagga, New South Wales, Australia.

BELL: DOUGLAS [*S.*, 1907], West House, Drury Lane, Wakefield.

BERRY: ARTHUR GILBERT [*Special War Examination*], 7 London Street, Norwich.

BETHAM: ARTHUR ARCHER [*Special War Examination*], 39 Bedford Square, W.C.1.

BINNIE: WILLIAM BRYCE [*S.*, 1913], Springwells Avenue, Airdrie, Scotland.

BLACKBURN: NORMAN ARTHUR [*S.*, 1914], Waynville, Westboro', Dewsbury.

BLACKFORD: JOSEPH [*S.*, 1913], Hartlebury, Kidderminster, Worcs.

BLOOMFIELD: WILLIAM SWANSON READ [*Special War Examination*], Gisborne, N. Zealand.

BROAD: GORDON LESLIE [*Special War Examination*], 18 Meadow Bank, Chorlton-cum-Hardy, Manchester.

BRODIE: JAMES [*S.*, 1909], 3 Palace View, Fulford, York.

BROOKS: CHRISTOPHER JOHN [*S.*, 1919], 4 Newton Mansions, Queen's Club Gardens, W.14.

BROOMHALL: THOMAS HARGREAVE [*S.*, 1911], 9 Park View, Walton, nr. Wakefield.

CABLE: CHARLES JOHN [*Special War Examination*], 23 Great Elms Road, Bromley, Kent.

CABLE: ROBERT WILLIAM [*S.*, 1909], School of Art, Bombay, India.

CALDWELL: OLIVER REGINALD [*S.*, 1912], Penzance, Cornwall.

CARR: GERALD MOSMAN, M.B.E. [*Special War Exam.*], Hiawatha, New South Head Road, Rose Bay, Sydney.

CASHMORE: FRANCIS MILTON [*Special War Examination*], 18 London Street, W.2.

CHANTER: HORACE RAYMOND [*S.*, 1908], 7 Whitehall Gardens, Acton Hill, W.3.

CHIPMAN: NOEL INGERSOLL [*Special War Examination*], 45 Lincoln Avenue, Montreal, Canada.

CHRISTIAN: FREDERICK FISHER [*Special War Examination*], 98 Newry Street, North Fitzroy, Melbourne.

CLAYTON: CHARLES LAWRENCE [*S.*, 1913], 10 Prince Albert Street, Brighton, Sussex.

CORNEY: JOHN WILLIAM [*S.*, 1905], Mafeking, St. Peter's Avenue, Kettering.

CUNDALL: PHILIP HENRY [*Special War Examination*], 13 Jesmond Avenue, Hilton Park, Prestwich, Lancs.

DAILEY: ARTHUR BENJAMIN [*S.*, 1910], 97 Elspeth Road, S.W.11.

DAVIES: DAVID OWEN HARRIS [*Final Examination*, 1919], "Maengwyn," Knoll Avenue, Swansea.

DAVIES: WILLIAM GEORGE [*Special War Examination*], 94 Jesmond Avenue, Bradford, Yorks.

DEAR: FRANK TWYDALE [*Special War Examination*], 9 Haycroft Road, Brixton Hill, S.W.

DODD: RONALD FIELDING [*S.*, 1919], "The Cottage," Castletown, Isle of Man.

DRAFFIN: MALCOLM KEITH [*Special War Examination*], King Edward Avenue, Epsom, Auckland, N. Zealand.

EDGECUMBE: JOHN HAROLD [*Special War Examination*], Hamilton, Waikato, Auckland, N. Zealand.

EDWARDS: KENNETH DREW [*S.*, 1912], Thornton, Thurlow Park, Torquay.

EMES: JAMES ALBERT [*S.*, 1915], 14 Nightingale Square, Wandsworth Common, S.W.

FILDES: GEOFFREY PHILIP [*S.*, 1919], 19 Queen Anne's Gate, Westminster, S.W.

FINCH: CLIFFORD HORACE [*Special War Examination*], Lord Street, Roseville, Sydney, N.S.W.

FISHER: HENRY NETTLETON, M.C. [*S.*, 1914], 84 Hungerford Road, Camden Road, N.7.

FORD: THOMAS FRANCIS [*Final Examination*, 1919], 36 Hanover Park, Peckham, S.E.15.

FRATER: ROBERT [*Final Examination*, 1919], 7 Bank Street, Greenock, N.B.

GENTRY: EDGAR CHARLES [*Final Examination*, 1919], c/o Messrs. Grindlay & Co., 54 Parliament Street, S.W.

GOODSALL: ROBERT HAROLD [*S.*, 1912], 10 Oxford Street, Whitstable, Kent.

GOODWIN: HARRY THOMAS [*S.*, 1912], 39 Granville Park, Blackheath, S.E.

GORDON: JOSEPH DAVISON [*S.*, 1914], Conway Square, Newtownards, Co. Down.

GORDON: PERCY JAMES [*S.*, 1914], c/o Messrs. Morrow & De Putron, 7 Moore Street, Sydney, Australia.

GRANT: JOHN PETER DIPPIE [*S.*, 1919], Bute Estate Office, Castle Street, Cardiff.

GREENISH: FRANK EGGAR [*Special War Examination*], Karori, Wellington, N. Zealand.

GREENWELL: CARLYLE [*S.*, 1907], Killara, Sydney, N.S.W., Australia.

GRIERSON: HUGH CRESSWELL [*Special War Examination*], Queen Street, Auckland, N. Zealand.

HAMILTON: ROBERT BELL [*Special War Examination*], c/o Architectural Association, 34 Bedford Square W.C.

HAMILTON: THOMAS CRESSEY [*S.*, 1913], 41 Balmoral Terrace, South Gosforth, Newcastle-on-Tyne.

HANNAFORD: LEONARD GORDON [*Special War Examination*], 29 Matheson Road, West Kensington, London.

HARDY: PHILIP [*Special War Examination*], 7745 View Point Crescent, Jasper Avenue, Edmonton, Canada.

HARRIS: WILFRED HENRY, P.A.S.I. [*S.*, 1914], 76a Bedford Road, Clapham, S.W.

HENSHALL: LOUIS SYDNEY, D.S.O. [*S.*, 1910], Stockton Heath, Warrington.

HERFORD: THEODORE WELLBY [*S.*, 1919], 27 Heaton Road, Withington, nr. Manchester.

HOLBROW: ALFRED ERNEST [*Special Final Examination*, 1919], 13 Cowper Road, Hanwell, W.7.

HOLROYD: FRANK [*S.*, 1913], 8 Warwick Place, Leeds.

HOUSTON: JAMES [*S.*, 1918], Glenlogan, Kilbirnie, Ayrshire.

HOWELL: JOHN ALLNUTT [*S.*, 1913], "The Laurels," Cumnor, nr. Oxford.

HUBBARD: PHILIP WADDINGTON, M.A., 112 Fenchurch Street, E.C.3.

HUDSON: THOMAS [*S.*, 1912], 2 Cassiobury Park Avenue, Watford, Herts.

INMAN: GORDON HENRY NISBET [*S.*, 1912], 7 Bedford Row, High Holborn, W.C.1.

IRWIN: LEIGHTON FRANCIS [*Special War Examination*], 39, Tavistock Square, W.C.

JACKMAN: FREDERICK [*Final Examination*, 1919], Yateley Lodge Cottage, Yateley, Hants.

JACKSON: BURROUGH DE CARLE [*S.*, 1911], Chelston, Overbury Avenue, Beckenham, Kent.

JEATER: WILLIAM DAVID [*Special War Examination*], "Werona," Woodstock Street, Mayfield, Newcastle, N.S.W.

JEFFREYS: HAROLD MORTON [*Special War Examination*], Rylston Lodge, London Road, Maldon, Essex.

JEWELL: HARRY HERBERT [*Special War Examination*], 12 Great James Street, Bedford Row, W.C.

JOHNSON: HENRY ANDREW [*S.*, 1915], The Vicarage, Great Harwood, Blackburn.

JONES: OWEN CAMPBELL [*Special War Examination*], Skinners' Hall, 9 Dowgate Hill, E.C.

LAST: FREDERICK BERTRAM [*S.*, 1911], Bolton House, Sutton, Surrey.

LEE: ROBERT ARTHUR [*Special War Examination*], Bank Street, Meadowbank, N.S.W., Australia.

LEGG: THEODORE ELLIS [*S.*, 1911], Tintern, Mornington Road, Woodford Green, Essex.

LISLE: BERTRAM EDWIN [*Special War Examination*], 7 Observatory Road, East Sheen, S.W.14.

LOVE: ROBERT MACLAREN [*S.*, 1911], Treviscoe, Launceston, Cornwall.
MCKENZIE: JOHN CHARLES [*Special War Examination*], 50, Kingscourt Road, Streatham, S.W.16.
MACLAURIN: ROBERT WILLIAM [*Special Examination*, 1915], P.O. Box 234, Gisborne, N. Zealand.
MCMICHAEL: ALASTAIR MARSHALL, M.A. [*Final Exam.*, 1919], Commercial Bank House, Callander, Perthshire.
MCNICOL: JOHN, P.A.S.I. [*S.*, 1907], 8 Park Terrace, Stockton-on-Tees.
MADDOCK: RICHARD HENRY [*S.*, 1911], Tremadoc, Egmont Road, Sutton, Surrey.
MAISEY: SAMUEL REGINALD [*Special War Examination*], 88 Pitt Street, Sydney, Australia.
MASON: HAROLD CLAYFORTH [*S.*, 1917], Skelgarth, Ambleside, Westmorland.
MASSEY: HORACE LOVELL [*Special War Examination*], 9 Gower Street, W.C.1.
MASTERS: WILLIAM EWART [*Special War Examination*], 3 Leeside Crescent, Golders Green, N.W.
MAXWELL: ARTHUR EDWIN [*S.*, 1913], c/o Mrs. Hall, 14 Highfield Avenue, N.W.4.
MELDRUM: PERCY HAYMAN [*Special Examination*, 1915], 34 Cartwright Gardens, W.C.1.
MERRISON: CHARLES REDFORD [*S.*, 1906], 41 Fountayne Road, Stoke Newington, N.16.
MOORE: JOHN DRUMMOND MACPHERSON [*S.*, 1913], Bayswater, Mackenzie Street, Lindfield, Sydney, Australia.
NATUSCH: STANLEY [*Special War Examination*], 27 Tanza Road, N.W.3.
NIGHTINGALE: FREDERICK BAYLISS [*S.* 1909], 47 West Side, Wandsworth Common, S.W.
NISBET: ALEC [*Special War Examination*], 37 Avenue Terrace, York.
NOWLAND: RAYMOND CLARE [*Special War Examination*], Ashfield, Sydney, N.S.W.
ODOM: JOHN HENRY [*S.*, 1911], 5, Kenbourne Grove, Sharrow, Sheffield.
OPIE: ARNOLD MOSTYN [*Special War Examination*], Azalea Street, Prospect, Adelaide, South Australia.
PAGE: THOMAS ALEXANDER [*S.*, 1911], 3 South View Terrace, South Shields.
POOL: STANLEY [*S.*, 1907], Oakleigh, Hartley, Wintney, Hants.
REID: GORDON STUART [*Special War Examination*], c/o The Architectural Association, 35 Bedford Square, W.C.1.
REIDY: EDWARD DANIEL [*Special War Examination*], "Te Kainga," Kelmarna Avenue, Herne Bay, Auckland, N.Z.
REW: NOËL ACKROYD [*S.*, 1906], 219 High Street, Great Berkhamsted.
RHIND: JAMES ELLABY [*Special War Examination*], 6 Victoria Terrace, Inverness.
RICHARDSON: HERBERT CLIFFORD [*S.*, 1913], St. Austell, Ashton-on-Mersey, Cheshire.
RILEY: RICHARD HOLDEN, P.A.S.I. [*S.*, 1911], 613 Bolton Road, Ewood, Blackburn.
ROUGHLEY: EDWARD [*S.*, 1908], 7 Gerard Road, Wallasey, Cheshire.
RUWALD: CYRIL C. [*Special War Examination*], Palmer Street, Chatswood, Sydney, Australia.
SALE: FREDERICK [*Special War Examination*], c/o The Architectural Association, 35 Bedford Square, W.C.
SAVEGE: OLIVER FREDERICK [*Special War Examination*], 59 Talgarth Road, West Kensington, W.
SHERWIN: CECIL THOMAS [*S.*, 1910], West House, Drury Lane, Wakefield.
SHORT: ERNEST WILLIAM GEORGE [*S.*, 1896], No. 3 Officers' Bungalow, Wynberg Camp, Cape Town, S. Africa.
SKINNER: THEODORE ARTHUR [*S.*, 1908], 6 Chesterfield Road, Bristol.
SMART: JACK STOCKER [*Special War Examination*], "Fo[illegible] Roy," Middle Street, South Kensington, Sydn[illegible] N.S.W.
SMART: ROY ARCHIBALD [*Special War Examination*], 45 Hawthorn Grove, Hawthorn, Victoria, Australia.
SOUZA: WALTER EDWARD DE [*Final Examination*, 1919], 20 Woodville Road, Golders Green, N.W.
STEPHENSON: ARTHUR GEORGE [*Special War Examination*], 21 Kooyong Koot Road, Glenferrie, Melbourne.
STEVENSON: ROY KENNETH [*Special War Examination*], Mandeville Hall, Clendon Rd., Toorak, Victoria, Aust.
STODDART: ROBERT WILLIAM [*Special War Examination*], 19 Fairlawn Avenue, Chiswick, W.4.
TANNER: EDGAR ALLAN DAVEY [*Special War Examination*], 18 Hestercombe Avenue, Munster Road, S.W.6.
THOMAS: PERCY EDWARD, O.B.E. [*Special War Examination*], 6 & 7 St. John Square, Cardiff.
THOMAS: STANLEY KNIGHT [*Special War Examination*], Castle View, Usk, Monmouthshire.
THOMPSON: GEORGE RICHARD, M.C. [*S.*, 1915], "Culwalla," Mann's Avenue, Neutral Bay, Sydney, N.S.W.
TURNER: DONALD K. [*Special War Examination*], Abbotsford, Sydney, Australia.
WALKER: FREDERICK ARTHUR [*S.*, 1904], 15 Brockenhurst Gardens, Mill Hill, N.W.7.
WATT: JOHN DESBOROUGH [*S.*, 1912], 15 Lancaster Park, Richmond, Surrey.
WARDILL: REGINALD WILLIAM [*S.*, 1913], 72 Greenvale Road, Eltham, S.E.9.
WEBB: KENNETH EDWARD [*Special War Examination*], Kent Road, Rose Bay, Sydney, N.S.W.
WHITE: JAMES HODGE [*Special War Examination*], Albert Lodge, Albert Place, W.8.
WICKS: HERBERT GRAHAM, M.C. [*S.*, 1907], "Hill Crest," Wellington Road, Edgbaston.
WILKES: FRANCIS HILTON, B.Arch. [*Special War Examination*], "Hyrneham," Brantford, Ontario, Canada.
WILLIAMSON: FREDERICK [*S.*, 1911], "Lynton House," Rushford Avenue, Levenshulme, Manchester.
WILLIAMSON: JOHN WALLACE [*Special War Examination*], 94 Devizes Road, Salisbury.
WILSON: ROBERT, JNR. [*S.*, 1914], Almalea, Falkirk, Stirlingshire.
WINDER: ARTHUR MAYALL [*S.*, 1911], 254 Waterloo Street, Oldham, Lancs.
WOOD: CECIL WALTER [*S.*, 1903], 90 Hereford Street, Christchurch, N. Zealand.
WOOD: JAMES [*S.*, 1913], 3 Strathaven Terrace, Oban, Argyllshire.
WOODHOUSE: FRANCIS PERCY MARK [*Final Examination*, 1919], Southmead, Wimbledon Park, S.W.
WYATT: LESLIE HERBERT WILLIAM [*Special War Examination*], 69 Tierney Road, Streatham Hill, S.W.2.
WYLDE: FREDERICK CHARLES [*S.*, 1909], Homelands, Kingsway, Woking, Surrey.

Opening Meeting, Tuesday, 4th November, at 8.30 p.m.

THE FIRST GENERAL MEETING (ORDINARY) of the Session 1919-20 will be held TUESDAY, 4th NOVEMBER 1919, at 8.30 p.m., for the following purposes:—To read the Minutes of the General Meeting (Ordinary) held 23rd June; to announce the names of candidates for membership.

The President, Mr. JOHN W. SIMPSON, to deliver THE OPENING ADDRESS.